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EXAMINER

BRIGGS, NATHANAEL R

ART UNIT	PAPER NUMBER
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2871

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/518,042	Applicant(s) MURAKAMI ET AL.	
	Examiner NATHANAEL R. BRIGGS	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 6-8, filed 24 March 2008, with respect to the rejection(s) of claim(s) 9-24 under 35 USC § 103 have been fully considered and are persuasive, particularly in that *Kawamoto* disclosed a thickness variation for the cholesteric layers, rather than to a quarter-wave plate according to the claimed range. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of additional prior art.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 9-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa (US 2002/0005925) in view of Kawamoto et al. (US 2003/0151704).

4. Regarding claim 9, Arakawa discloses an optical laminate (see figures 4, 5, and 7, for instance), comprising a quarter-wave plate (50), wherein (i) the quarter-wave plate (50) includes at least one layer of a material having a positive intrinsic birefringence value (layer A, 52) and at least one layer of a material having a negative intrinsic birefringence value (layer B, 54), the layer A (52) and the layer B (54) having the same molecular chain orientation ([0009]), the quarter-wave plate (50) is obtained by stretching a laminate obtained by co-extruding the material having a positive intrinsic

birefringence value (52) and the material having a negative intrinsic birefringence value (54,[0081], [0148]-[0152]), and (v) the material having a positive intrinsic birefringence value (52) is an alicyclic structure-containing polymer resin having a content of a resin component with a molecular weight of 2000 or less of 5 wt% or less ([0043], norbornene based polymer, as per Applicant's specification, page 7, line 12). However, Arakawa does not expressly disclose wherein the quarter-wave plate has a variation in thickness of 5% or less, or wherein the optical laminate further comprises a cholesteric liquid crystal layer and a quarter-wave plate laminated on the cholesteric liquid crystal layer.

5. Regarding claim 9, Kawamoto discloses an optical laminate (see figures 1 and 2, for instance), wherein the quarter-wave plate has a variation in thickness as uniform as possible ([0046]), and wherein the optical laminate further comprises a cholesteric liquid crystal layer (12, 13) and a quarter-wave plate (2) laminated on the cholesteric liquid crystal layer (12, 13).

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the quarter-wave / cholesteric LC layer combination of Kawamoro in the optical laminate of Arakawa. The motivation for doing so would have been to minimize changes in hue and increased viewing angle, as taught by Kawamoto ([0007]). Furthermore, it would have been obvious to make the quarter-wave plate of Kawamoto having variation in thickness of 5% or less, as Kawamoto discloses that it is desirable to make the retardation of the quarter-wave plate as uniform as possible ([0046]), which is directly dependent on the quarter-wave plate thickness ([0040]). Therefore, Kawamoto discloses thickness variation of overlapping ranges with the

limitation of claim 9. According to MPEP § 2144.05, II. A, "In the case where the claimed ranges 'overlap or lie inside ranges disclosed by the prior art', a *prima facie* case of obviousness exists". Therefore, it would have been obvious to make the quarter-wave plate of Arakawa with a thickness as uniform as possible, as taught by Kawamoto ([0040]; [0046]), to increase color compensation at a wide range of viewing angles, as taught by Kawamoto ([0040]). Claim 9 is therefore unpatentable.

7. Regarding claim 10, Arakawa in view of Kawamoto discloses the optical laminate according to claim 9 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses wherein the material having a negative intrinsic birefringence value is a vinyl aromatic polymer ([0052]). Claim 10 is therefore unpatentable.

8. Regarding claim 11, Arakawa in view of Kawamoto discloses the optical laminate according to claim 9 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses wherein the quarter-wave plate (50) has a configuration consisting of the layer A, the layer B, and the layer A, or consisting of the layer B, the layer A, and the layer B. Claim 11 is therefore unpatentable.

9. Regarding claim 12, Arakawa in view of Kawamoto discloses the optical laminate according to claim 10 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses wherein the quarter-wave plate (50) has a configuration consisting of the layer A, the layer B, and the layer A, or consisting of the layer B, the layer A, and the layer B. Claim 12 is therefore unpatentable.

10. Regarding claim 13, Arakawa in view of Kawamoto discloses the optical laminate according to claim 9 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses a polarized light source comprising the optical laminate according to claim 9 ([0137]). Claim 13 is therefore unpatentable.

11. Regarding claim 14, Arakawa in view of Kawamoto discloses the optical laminate according to claim 10 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses a polarized light source comprising the optical laminate according to claim 10 ([0137]). Claim 14 is therefore unpatentable.

12. Regarding claim 15, Arakawa in view of Kawamoto discloses the optical laminate according to claim 11 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses a polarized light source comprising the optical laminate according to claim 11 ([0137]). Claim 15 is therefore unpatentable.

13. Regarding claim 16, Arakawa in view of Kawamoto discloses the optical laminate according to claim 12 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses a polarized light source comprising the optical laminate according to claim 12 ([0137]). Claim 16 is therefore unpatentable.

14. Regarding claim 17, Arakawa in view of Kawamoto discloses the optical laminate according to claim 13 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses the polarized light source comprising a light reflecting layer, a light source, and the optical laminate (50), wherein the light reflecting layer, the light source, and the optical laminate (50) are disposed so that light emitted from the light source is incident on the optical laminate from a side of the cholesteric

liquid crystal layer, and reflected circularly polarized light reflected by the optical laminate is reflected by the light reflecting layer and is incident on the optical laminate ([0137]). Claim 17 is therefore unpatentable.

15. Regarding claim 18, Arakawa in view of Kawamoto discloses the optical laminate according to claim 14 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses the polarized light source comprising a light reflecting layer, a light source, and the optical laminate (50), wherein the light reflecting layer, the light source, and the optical laminate (50) are disposed so that light emitted from the light source is incident on the optical laminate (50) from a side of the cholesteric liquid crystal layer, and reflected circularly polarized light reflected by the optical laminate is reflected by the light reflecting layer and is incident on the optical laminate ([0137]). Claim 18 is therefore unpatentable.

16. Regarding claim 19, Arakawa in view of Kawamoto discloses the optical laminate according to claim 15 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses the polarized light source comprising a light reflecting layer, a light source, and the optical laminate (50), wherein the light reflecting layer, the light source, and the optical laminate (50) are disposed so that light emitted from the light source is incident on the optical laminate (50) from a side of the cholesteric liquid crystal layer, and reflected circularly polarized light reflected by the optical laminate (50) is reflected by the light reflecting layer and is incident on the optical laminate ([0137]). Claim 19 is therefore unpatentable.

17. Regarding claim 20, Arakawa in view of Kawamoto discloses the optical laminate according to claim 16 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses the polarized light source comprising a light reflecting layer, a light source, and the optical laminate (50), wherein the light reflecting layer, the light source, and the optical laminate (50) are disposed so that light emitted from the light source is incident on the optical laminate (50) from a side of the cholesteric liquid crystal layer, and reflected circularly polarized light reflected by the optical laminate (50) is reflected by the light reflecting layer and is incident on the optical laminate ([0137]). Claim 20 is therefore unpatentable.

18. Regarding claim 21, Arakawa in view of Kawamoto discloses a liquid crystal display device (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), comprising the polarized light source device according to claim 13 ([0137]). Claim 21 is therefore unpatentable.

19. Regarding claim 22, Arakawa in view of Kawamoto discloses a liquid crystal display device (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), comprising the polarized light source device according to claim 14 ([0137]). Claim 22 is therefore unpatentable.

20. Regarding claim 23, Arakawa in view of Kawamoto discloses a liquid crystal display device (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa discloses the device comprising the polarized light source device according to claim 15 ([0137]). Claim 23 is therefore unpatentable.

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21. Regarding claim 24, Arakawa in view of Kawamoto discloses a liquid crystal display device (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa discloses the device comprising the polarized light source device according to claim 16 ([0137]). Claim 24 is therefore unpatentable.

22. Regarding claim 25, Arakawa in view of Kawamoto discloses a liquid crystal display device according to claim 9 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses wherein a layer A/layer C/layer B/layer C/layer A configuration, the layer A being a layer of a material having a positive intrinsic birefringence value, the layer C being an adhesive layer, and the layer B being a layer of a material having a negative intrinsic birefringence value ([0080]). Claim 25 is therefore unpatentable.

23. Regarding claim 26, Arakawa in view of Kawamoto discloses a liquid crystal display device according to claim 25 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa discloses the device comprising the optical laminate according to claim 25. Claim 26 is therefore unpatentable.

24. Regarding claim 27, Arakawa in view of Kawamoto discloses a liquid crystal display device according to claim 26 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses comprising a light reflecting layer, a light source, and the optical laminate (50), wherein the light reflecting layer, the light source, and the optical laminate (50) are disposed so that light emitted from the light source is incident on the optical laminate (50) from a side of the cholesteric liquid crystal layer, and reflected circularly polarized light reflected by the

optical laminate is reflected by the light reflecting layer and is incident on the optical laminate ([0137]). Claim 27 is therefore unpatentable.

25. Regarding claim 28, Arakawa in view of Kawamoto discloses a liquid crystal display device (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa discloses the device comprising the polarized light source according to claim 26. Claim 28 is therefore unpatentable.

26. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa (US 2002/0005925) in view of Kawamoto et al. (US 2003/0151704) as applied to claim 9 above, and further in view of Miyatake et al. (US 2002/0159006).

27. Regarding claim 29, Arakawa in view of Kawamoto discloses a liquid crystal display device according to claim 26 (see Arakawa figures 4, 5, and 7; Kawamoto figures 1 and 2, for instance), and Arakawa further discloses wherein the quarter-wave plate has a layer A/layer C/layer B/layer C/layer A configuration, the layer A being a layer of a material having a positive intrinsic birefringence value, and the layer B being a layer of a material having a negative intrinsic birefringence value ([0080]). However, Arakawa in view of Kawamoto does not expressly disclose wherein the layer C being an ethylene-(meth)acrylate copolymer adhesive layer.

28. Regarding claim 29, Miyatake discloses an optical laminate (see figure 1, for instance), having an ethylene-(meth)acrylate copolymer adhesive layer ([0027]).

29. It would have been obvious to use the adhesive layer of Miyatake in the optical laminate of Arakawa in view of Kawamoto. The motivation for doing so would have been

to use an adhesive having excellent weather resistance. Claim 29 is therefore unpatentable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANAEL R. BRIGGS whose telephone number is (571)272-8992. The examiner can normally be reached on 9 AM - 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathanael Briggs – 6/30/2008

/Andrew Schechter/

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